WHAT IS CLAIMED IS:

1. An digital video signal transmission apparatus, comprising:

a data transmission path for transmitting a digital video signal in which a plurality of chrominance signals having plural bits per pixel are combined;

conversion means for converting the respective chrominance signals of the digital video signal to be transmitted, in such a manner that every plural frames (a) in one frame of the plural frames, each of the chrominance signals is converted into a gradation signal having plural bits less or equal to a number of bits contained in each chrominance signal, while (b) in other frames of the plural frames, each of the chrominance signals is converted into a binary signal having 1 bit, so that an average of gradation levels of the respective chrominance signals in the plural frames after the conversion is substantially equal to gradation levels of the respective chrominance signals in a single frame before the conversion;

flag signal generation means (a) for generating a flag signal for setting how the gradation signal and the binary signal are respectively assigned to each of the chrominance signals, which constitute each pixel signal, so that one of the chrominance signals has plural bits, while the other chrominance signals have 1

bit, and (b) for outputting the flag signal to said data transmission path;

signal setting means (a) for assigning the gradation signal and the binary signal respectively to each of the chrominance signals, in accordance with the flag signal, so that one of the plural chrominance signals, which constitute each pixel signal, has plural bits, while the other chrominance signals have 1 bit, and (b) for outputting a resultant digital video signal to said data transmission path; and

bit expansion means for carrying out bit expansion of the digital video signal, which has been transmitted, in accordance with the flag signal that have been transmitted via said data transmission path, so that the respective plural chrominance signals, which constitute each pixel signal, have an equal number of bits.

2. The digital video signal transmission apparatus as set forth in Claim 1, wherein said flag signal generation means generates the flag signal so that adjacent plural pixels are respectively supplied with the flag signal having values different from each other.

3. The digital video signal transmission apparatus as set forth in Claim 1, wherein

said conversion means converts each chrominance signal into the gradation signal having plural bits in one frame every frames in an F number, where F is greater than n, and n is a number of types of the chrominance signals, and

said signal setting means carries out the conversion of the chrominance signals so that, (a) in frames in the n number every frames in the F number, each chrominance signal of one type is converted into the gradation signal having plural bits, and each of the chrominance signals of other types are converted into the binary signal having one bit, and (b) in other frames every frames in the F number, one type of the chrominance signals are converted into the binary signal having plural bits, while other types of the chrominance signals are converted into the binary signal having one bit.

4. The digital video signal transmission apparatus as set forth in Claim 1, wherein said conversion means converts each chrominance signal into the gradation signal having plural bits in one frame every four to eight frames.

5. An image display apparatus, which includes a digital video signal transmission apparatus for transmitting a digital video signal in which a

plurality of chrominance signals having plural bits per pixel are combined, wherein said digital video signal transmission apparatus includes:

a data transmission path for transmitting the digital video signal;

conversion means for converting the respective chrominance signals of the digital video signal to be transmitted, in such a manner that every plural frames (a) in one frame of the plural frames, each of the chrominance signals is converted into a gradation signal having plural bits less or equal to a number of bits contained in each chrominance signal, while (b) in other frames of the plural frames, each of the chrominance signals is converted into a binary signal having 1 bit, so that an average of gradation levels of the respective chrominance signals in the plural frames after the conversion is substantially equal to gradation levels of the respective chrominance signals in a single frame before the conversion;

flag signal generation means (a) for generating a flag signal for setting how the gradation signal and the binary signal are respectively assigned to each of the chrominance signals, which constitute each pixel signal, so that one of the chrominance signals has plural bits, while the other chrominance signals have 1 bit, and (b) for outputting the flag signal to said data transmission path;

signal setting means (a) for assigning the gradation signal and the binary signal respectively to each of the chrominance signals, in accordance with the flag signal, so that one of the plural chrominance signals, which constitute each pixel signal, has plural bits, while the other chrominance signals have 1 bit, and (b) for outputting a resultant digital video signal to said data transmission path; and

bit expansion means for carrying out bit expansion of the digital video signal, which has been transmitted, in accordance with the flag signal that have been transmitted via said data transmission path, so that the respective plural chrominance signals, which constitute each pixel signal, have an equal number of bits.

6. An image display apparatus as set forth in Claim 5, further comprising:

display means for displaying an image in accordance with the digital video signal that has been subjected to the bit expansion by said bit expansion means.

7. A digital video signal compression apparatus for reducing a number of bits of a digital video signal in which a plurality of chrominance signals having plural bits per pixel are combined, said digital video

signal compression apparatus comprising:

conversion means for converting the respective chrominance signals of the digital video signal, in such a manner that every plural frames (a) in one frame of the plural frames, each of the chrominance signals is converted into a gradation signal having plural bits less or equal to a number of bits contained in each chrominance signal, while (b) in other frames of the plural frames, each of the chrominance signals is converted into a binary signal having 1 bit, so that an average of gradation levels of the respective chrominance signals in the plural frames after the conversion is substantially equal to gradation levels of the respective chrominance signals in a single frame before the conversion;

flag signal generation means for generating a flag signal for setting how the gradation signal and the binary signal are respectively assigned to each of the chrominance signals, which constitute each pixel signal, so that one of the chrominance signals has plural bits, while the other chrominance signals have 1 bit; and

signal setting means for assigning the gradation signal and the binary signal respectively to each of the chrominance signals, in accordance with the flag signal, so that one of the plural chrominance signals, which constitute each pixel signal, has plural bits,

while the other chrominance signals have 1 bit.

8. The digital video signal compression apparatus as set forth in Claim 7, wherein said flag signal generation means generates the flag signal so that each adjacent plural pixel have the flag signal having a value different from each other.

9. A method of compressing a digital video signal, for reducing bits in number contained in the digital video signal in which a plurality of chrominance signals having plural bits per pixel are combined, comprising steps of:

converting the respective chrominance signals of the digital video signal, in such a manner that every plural frames (a) in one frame of the plural frames, each of the chrominance signals is converted into a gradation signal having plural bits less or equal to a number of bits contained in each chrominance signal, while (b) in other frames of the plural frames, each of the chrominance signals is converted into a binary signal having 1 bit, so that an average of gradation levels of the respective chrominance signals in the plural frames after the conversion is substantially equal to gradation levels of the respective chrominance signals in a single frame before the conversion;

generating a flag signal for setting how the

gradation signal and the binary signal are respectively assigned to each of the chrominance signals, which constitute each pixel signal, so that one of the chrominance signals has plural bits, while the other chrominance signals have 1 bit; and

assigning the gradation signal and the binary signal respectively to each of the chrominance signals, in accordance with the flag signal, so that one of the plural chrominance signals, which constitute each pixel signal, has plural bits, while the other chrominance signals have 1 bit.